

O B S . E .

The Sun shining into my darkened Chamber through a Hole $\frac{1}{2}$ of an Inch wide, I let the intromitted beam of Light fall perpendicularly upon a Glass Speculum ground concave on one side and convex on the other, to a Sphere of five Feet and eleven Inches Radius, and quick-silvered over on the convex side. And holding a white opake Chart, or a Quire of Paper at the Center of the Spheres to which the Speculum was ground, that is, at the distance of about five Feet and eleven Inches from the Speculum, in such manner, that the beam of Light might pass through a little Hole made in the middle of the Chart to the Speculum, and thence be reflected back to the same Hole : I observed upon the Chart four or five concentric Irises or Rings of Colours, like Rain-bows, encompassing the Hole much after the manner that those, which in the fourth and following Observations of the first part of this third Book appeared between the Object-Glasses, encompassed the black Spot, but yet larger and fainter than those. These Rings as they grew larger and larger became diluter and fainter, so that the fifth was scarce visible. Yet sometimes, when the Sun shone very clear, there appeared faint Lineaments of a sixth and seventh. If the distance of the Chart from the Speculum was much greater or much less than that of six Feet, the Rings became dilute and vanished. And if the distance of the Speculum from the Window was much greater than that of six Feet, the reflected beam of Light would be so broad at the distance of six Feet from the Speculum where the Rings appeared,

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